COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
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Doug Domenech
Secretary of Natural Resources

David K. Paylor
Director

STATEMENT OF LEGAL AND FACTUAL BASIS

Hampton Roads Sanitation District - Williamsburg WWTP
300 Ron Springs Road, Williamsburg, Virginia
Permit No. TRO - 60355

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, the Hampton Roads Sanitation District has applied for a Title V Operating Permit for its wastewater treatment facility with sludge incinerators at 300 Ron Springs Road, Williamsburg, Virginia. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: Kelly R. Giles Date: 4.11.11
Kelly R. Giles
(757) 518-2155

Air Permit Manager: Date: 4/11/11
Jane A. Workman

Acting Regional Director: Maria R. Nold Date: April 11, 2011
Maria R. Nold

Attachments: 04/04/73 Minor NSR Permit
40 CFR 61, Subpart E

I. FACILITY INFORMATION

Permittee
Hampton Roads Sanitation District
PO Box 5911
Virginia Beach, Virginia 23471

Responsible Official
Mr. Edward G. Henifin, P.E.
General Manager

Facility
Chesapeake-Elizabeth WWTP
5332 Shore Drive
Virginia Beach, Virginia

Contact Person
Mr. Mark Feltner
Environmental Scientist
757-460-4254

County-Plant Identification Number: 51-095-00023

A. SOURCE DESCRIPTION

NAICS Code: 221320 - Sewage Treatment Facilities
NAICS Code: 562219 - Non-hazardous Waste Treatment and Disposal
NAICS Code: 562213 - Solid waste combustors or incinerators, nonhazardous

The Williamsburg Plant provides both primary and secondary municipal wastewater treatment for the Hampton Roads area, serving mainly Williamsburg and James City County clients. The Williamsburg Plant is rated to treat a design maximum average dry weather flowrate of 22.5 million gallons per day (mgd) and sized to accommodate an instantaneous wet weather peak hour flowrate of 50 mgd. The facility process units are grouped into four main functions: liquids management, solids handling, sludge incineration, and other combustion units.

Liquids management – all of the unit processes that treat the received wastewater prior to discharge to the James River. These unit processes include the septic tank truck unloading, headworks (influent screening and pumping), aerated grit removal chamber, primary clarification, intermediate oxidation towers, intermediate clarification, activated biosolids treatment, secondary clarification, chlorine contact basin and sodium bisulfate injection.

Solids Handling – unit processes that treat liquid treatment by-product streams before disposal. These unit processes include screenings and grit handling, primary scum holding tank/concentrator, gravity thickener, belt thickener, biosolids holding tank, dewatering centrifuges, biosolids screw conveyors, and ash storage/disposal.

Sludge incineration – two identical multi-hearth incinerators are used to dispose of dewatered solids from the solids handling sections. Each incinerator has nine hearths, a dedicated induced-draft fan and an air-pollution control train consisting of a precooler, venture, and an impingement scrubber. The incinerators use either natural gas or fuel oil to supplement combustion.

Other Combustion Units – a plant electrical generator, a small heating boiler for the dewatering building, and building space heaters. All these units burn diesel or natural gas. The electrical generator is used mainly for occurrences of normal power losses, and is also a part of an Emergency Load Response Program (ELRP) administered by EnergyConnect as part of the Pennsylvania New Jersey Maryland Interconnection, LLC (PJM).

The facility is a Title V major source of NO_x, SO_2 and CO and an area source for HAPs. This source is located in an attainment area for all pollutants. The facility is permitted under Minor NSR Permit issued on 04/04/73.

North Carolina is an affected state.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

III. EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	Pollutant Controlled	Applicable Permit Date
Incinerators						
I-1/I-2	2	Multi hearth sludge incinerators (natural gas or distillate oil as backup), 1973	12 burners rated at 2.7 MMBTU//hr each per incinerator. 47 dry tons/day (sludge) per incinerator	Pre-cooler with Venturi scrubber followed by impingement (tray) scrubber (water only). (Pre-cooler - TCR, Venturi – Airpol#7539-D2-2, Tray – Envirotech V5-JS), 1999.	PM/PM-10 (Odor)	04/04/73
Liquids Management						
L-1	3a 3b 4a 4b	Liquids Management, 1971	22.5 mgd (dry) (wastewater)	Packed tower scrubber (water plus NaOCl and NaOH). (Ceilcote - or Delta Environmental Systems)	(Odor)	N/A (State Only)
Plant Emergency Generators						
G-1	1	Plant diesel engine electrical generator, 1971. MACT Subpart ZZZZ	17.45 MMBTU/hr (3200 kW)	N/A	N/A	N/A
Solids Handling						
S-1	5a 5b	Solids Handling, 1973	22.5 mgd (dry) (wastewater)	Single stage packed tower scrubber (water plus NaOCl and NaOH) Ceilcote. 1990.	(Odor)	N/A (State Only)

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

IV. EMISSIONS INVENTORY

A copy of the 2009 annual emission update is attached. Emissions are summarized in the following tables.

2009 Criteria Pollutant Emissions in Tons/Year					
Emission Unit	VOC	CO	SO_2	PM10	NO_x
Incinerators	5.56	101.40	157.01	0.69	16.36
Emergency Generator	0.13	1.36	0.00	0.09	5.11
Liquids Management	4.08				
Solids Handling	0.01	0.08	0.00	0.01	0.10
Total	**9.78**	**102.84**	**157.01**	**0.79**	**20.57**

2009 Hazardous Air Pollutant Emissions in Tons/Year	
Pollutant	**Tons/yr**
Total HAPs	1.79

V. APPLICABLE REQUIREMENTS – Incinerators (I-1/I-2)

A. Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-80	Standards for Visible Emissions
9 VAC 5-50-260	Standards for Stationary Sources
9 VAC 5-60-70	Designation of Emission Standards (Mercury)
9 VAC 5-40-750	Standards for Particulate Matter (Incinerators)

The following Federal Regulations that have specific emission requirements have been determined to be applicable:

40 CFR 61 Subpart E	NESHAP-Mercury

See also NSR permit issued 04/04/73. The VA new source standards for opacity (9 VAC 5-50-80) were not promulgated until 08/09/75 – some two years after the 04/04/73 permit was issued. The introduction to the new source standards (9 VAC 5-50-10) specify that the standards apply to all new source activity that has been conducted after March 17, 1972. The new source opacity standards, 20% with no more than one six-minute period not to exceed 30%, are the resultant values from the permit and Regulations that should be used for compliance.

B. Monitoring

The following Virginia Administrative Codes that have specific monitoring requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content

The following Federal Regulations that have specific monitoring requirements have been determined to be applicable:

40 CFR 64 Compliance Assurance Monitoring

See also NSR permit issued 04/04/73.

C. Testing

The following Virginia Administrative Codes that have specific testing requirements have been determined to be applicable:

9 VAC 5-80-110 Permit Content

The following Federal Regulations that have specific testing requirements have been determined to be applicable:

40 CFR 61 Subpart E NESHAP-Mercury

Subpart E, 61.53(d) and 61.54, only requires an annual test for Hg (by means of an incinerator stack test performed using Method 101A of 40 CFR 61, Appendix B; or the sludge must be tested for mercury levels using Method 105 of 40 CFR 61, Appendix B) if mercury emissions exceed 1,600 grams per 24-hour period.
The source conducted Hg testing during first Title V permit cycle (June 2000) and used Method 29 for 40 CFR 503 stack emissions compliance and emissions were 17 grams/day (near 1/200 of standard). During the second permit cycle, the source tested biosolids fed to the hearth furnaces using SW-846 Method 7471A. Hg emissions were determined using equivalent equations to those listed in 40 CFR 61.54. Results from those tests are as follows:

Year	Hg Emission Rate (gram/day)
2007	12
2008	13
2009	12

The source is required to test the sludge for Hg under 40 CFR 503 every 60 days.
Since all Hg past test results have been very low and with the 40 CFR 503 requirement of a continuing Hg sludge test requirement of every 60 days, **no** additional 40 CFR 61, Subpart E Hg compliance testing was required for this Title V renewal permit. Subpart E testing will be reviewed again at the next renewal.

See also NSR permit issued 04/04/73.

D. Reporting

The following Virginia Administrative Codes that have specific reporting requirements have been determined to be applicable:

9 VAC 5-80-110 Permit Content

The following Federal Regulations that have specific reporting requirements have been determined to be applicable:

40 CFR 64	Compliance Assurance Monitoring
40 CFR 61 Subpart E	NESHAP-Mercury

The permit includes reporting requirements for protocols, testing dates and results of stack tests conducted for PM or mercury and notifications for proposed plant changes that would potentially increase mercury emissions above 1,600 grams/24-hour period.

E. Recordkeeping

The following Virginia Administrative Codes that have specific recordkeeping requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-50	Notifications, Records and Reporting

The following Federal Regulations that have specific recordkeeping requirements have been determined to be applicable:

40 CFR 64	Compliance Assurance Monitoring

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include fuel supplier certifications, sludge or stack test results for mercury emissions, PM stack test results with PM emission factors used, PM CAM records, VEE records, operating procedures, maintenance records, operator training records, and daily (monthly average) dry ton biosolids feed rate to active incinerator(s).

VI. APPLICABLE REQUIREMENTS - Liquids Management (L-1)

A. Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-80	Standards for Visible Emissions

The Liquids Management (L-1) shares the same odor scrubbing system with the Solids Handling (S-1) operations. Since the Solids Handling is a new source (constructed after 1972), the addition of the scrubbing system in 1990 to control fugitive odor emissions would have to meet the most stringent of opacity standards for the existing source, L-1 (20 - 60%) or the new source, S-1 (20 - 30%); which would be the new source levels of 20-30%.

VII. APPLICABLE REQUIREMENTS - Solids Handling (S-1)

A. Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-80	Standards for Visible Emissions

VIII. APPLICABLE REQUIREMENTS - Electrical Generator (G-1)

A. Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content

B. Monitoring

The following Virginia Administrative Codes that have specific monitoring requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content

C. Recordkeeping

The following Virginia Administrative Codes that have specific recordkeeping requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content

D. Testing

The following Virginia Administrative Codes that have specific testing requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content

IX. APPLICABLE REQUIREMENTS - Petroleum Liquid UST for Solids Handling

A. Recordkeeping

The following Virginia Administrative Codes that have specific recordkeeping requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content

The following Federal Regulations that have specific recordkeeping requirements have been determined to be applicable:

40 CFR 60 Subpart Kb NSPS-tanks

X. STREAMLINED REQUIREMENTS

The following conditions in the minor NSR permit of April 4, 1973, have been streamlined into the Title V permit:

Condition 1:	Progress reports for construction of incinerators were submitted until operations began. No further reporting is required.
Condition 2:	Stack testing of new incinerators was accomplished after operations began.
Condition 3:	Notifications of proposed stack testing was accomplished.
Condition 4.1:	Section XI of the Title V permit lists State-Only Enforcement issues. Odor is not only an issue for the incinerators but the entire facility (liquids management, solids handling, etc.). The source is complying with Article 5-2 for BACT on odor control for the incinerators by using the scrubber system to control PM on the incinerators. The CAM requirements for monitoring the incinerator scrubber system are a way to also monitor odor control for the incinerators. If PM emissions are minimized, odor is expected to be minimized.

The following conditions in the 40 CFR 61, Subpart E have been streamlined out of the Title V permit:

Para 61.63 (d)(2)(i) and 61.54(a)(2):	Initial testing of existing source. Source conducted this testing as required in the 1970's.
Para 61.55(a):	Monitoring. Not required as source has no emissions at the specified level to require more testing.

XI. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

1. Comments on General Conditions

   a. Condition B. Permit Expiration

   This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 3-2006".

   This general condition cite(s) the Article(s) that follow(s):
   Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources.

This general condition cites the sections that follow:

9 VAC 5-80-80.	Application
9 VAC 5-80-140.	Permit Shield
9 VAC 5-80-150.	Action on Permit Applications

b. Condition F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
9 VAC 5-40-50. Notification, Records and Reporting
9 VAC 5-50-50. Notification, Records and Reporting

c. Condition J. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50.	Applicability, Federal Operating Permit for Stationary Sources
9 VAC 5-80-190.	Changes to Permits
9 VAC 5-80-260.	Enforcement
9 VAC 5-80-1100.	Applicability, Permits for New and Modified Stationary Sources
9 VAC 5-80-1790.	Applicability, Permits for Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000.	Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

d. Condition U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180.	Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-110.	Permit Content

e. Condition Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:
40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.
40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.
40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:
9 VAC 5-60-70. Designated Emissions Standards
9 VAC 5-80-110. Permit Content

XII. STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5-40-290	Existing Source Standards for Hydrogen Sulfide
9 VAC 5-60-220	Existing Source Standards for Toxics
9 VAC 5-40-140	Existing Source Standards for Odor
9 VAC 5-50-140	New Source Standards for Odor
9 VAC 5-60-320	New Source Standards for Toxics

XIII. INAPPLICABLE REQUIREMENTS

Citation	Title of Citation	Description of Applicability
40 CFR 60 Subpart O	NSPS for Sewage Treatment Plants	Incinerator that charges more than 2,205 lb/day of municipal sewage sludge (dry basis)
40 CFR 61 Subpart C	NESHAPS for Beryllium	Incineration of Beryllium wastes
40 CFR 63 Subpart VVV	NESHAPS for POTWs	New and reconstructed major HAPs POTWs
9 VAC 5 Chapter 40, Article 8	Emission Standards for Fuel Burning Equipment	Standards for PM and SO_2 for fuel burning equipment
9 VAC 5 Chapter 40, Article 4	Emission Standards for General Process Operations	Standards for PM from any process unit and SO_2 standard for combustion equipment
There are no applicable GHG permitting requirements.		

XIV. INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
ISU-CB-20	Dewatering Bldg. Heating Boiler	5-80-720 C.2.a	N/A	2.4 MMBTU/hr
ISU-T-22	Solids Handling distillate oil UST	5-80-720 B.2	VOC	20,000 gal.
ISU-T-24	Liquids Management distillate UST	5-80-720 B.2	VOC	6,000 gal.
ISU-T-25	Liquids Management gasoline UST	5-80-720 B.2	VOC	1,000 gal.
ISU-MFS-34	Parts Cleaners and Degreasers	5-80-720 B.2	VOC	N/A

The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

XV. CONFIDENTIAL INFORMATION

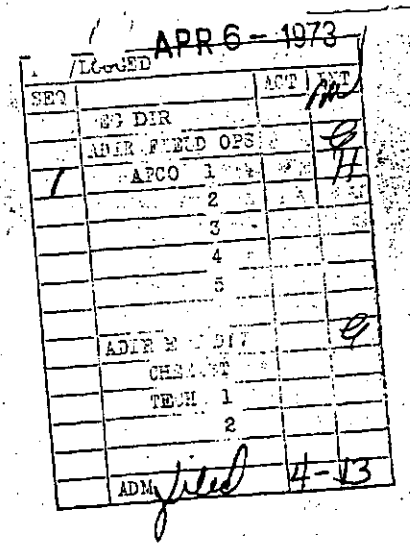
The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

XVI. PUBLIC PARTICIPATION

The draft permit was placed on public notice in the Daily Press from February 23, 2011 to March 25, 2011. Comments: None.

Draft and proposed permit sent to affected state (NC) on: March 9, 2011.

Draft and proposed permit emailed to EPA on: February 18, 2011. Comments: None.



April 4, 1973

Mrs. Marjorie McLemore
Environmental Engineer
Hampton Roads Sanitation District
236 East Plume Street
Box 1741
Norfolk, Virginia 23501

Location: Williamsburg Treatment Plant
Registration Number: 60355

Dear Mrs. McLemore:

The staff of the State Air Pollution Control Board has analyzed the permit information submitted in your letter of March 15, 1973.

Under the authority delegated to the Executive Director by the Board, the permit application submitted by the Hampton Roads Sanitation District is approved subject to the following conditions:

1. Quarterly progress reports be submitted to the Board and Regional Director, address below, beginning June 30, 1973.

2. Stack testing be done within 60 days after start up in accordance with section 2.06(f) (1). These tests will be subject to prior agreement between the source and the Board as to details of the methods of testing.

3. Written notification be given the Board and Regional Director five(5) days in advance of the scheduled stack tests, so that same may be observed if deemed appropriate.

4. The furnace design criteria must conform with those delineated in your permit request dated March 15, 1973 and are as follows:

   i. No noticible odors at a distance of fifty feet or greater.
   ii. Visible emissions less than 20% opacity.
   iii. Particulate emissions less than .14 grains per standard cubic foot dry flue gas corrected to 12% carbon dioxide.

The above registration number has been assigned to this new installation. A full set of Registration forms should be completed and returned as soon as design details are available. The Regional Director in your area by copy of this letter is being asked to aid you in completing these forms.

You are cautioned that approval of this permit should not be construed to mean your operation is automatically in compliance with all aspects of the Regulations for the Control and Abatement of Air Pollution. Regional personnel will be constantly evaluating all sources for compliance with Section 4.02.00 - Smoke or Other Visible Emissions and Section 4.04.02 - Control of Fugitive Dust. In addition, yearly up-dating of emissions from sources will require visits from staff personnel. Compliance with all air pollution regulations must be a continuing full time effort.

This permit approval is only applicable to the Air Pollution Control Board Permit Requirements and should not be construed to mean that permits required by other governmental agencies are also approved by this letter.

Sincerely,

W. R. Meyer
Executive Director

WRM/KMM/bb

cc: Director of Enforcement
Director of Engineering

Mr. Lucian B. McDonald
State Air Pollution Control Board
Pembroke One - Suite 510
281 Independence Boulevard
Virginia Beach, Virginia 23462

Electronic Code of Federal Regulations
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e-CFR Data is current as of April 12, 2011

Title 40: Protection of Environment
PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

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Subpart E—National Emission Standard for Mercury

§ 61.50 Applicability.

The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge.

[40 FR 48302, Oct. 14, 1975]

§ 61.51 Definitions.

Terms used in this subpart are defined in the act, in subpart A of this part, or in this section as follows:

(a) *Mercury* means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.

(b) *Mercury ore* means a mineral mined specifically for its mercury content.

(c) *Mercury ore processing facility* means a facility processing mercury ore to obtain mercury.

(d) *Condenser stack gases* mean the gaseous effluent evolved from the stack of processes utilizing heat to extract mercury metal from mercury ore.

(e) *Mercury chlor-alkali cell* means a device which is basically composed of an electrolyzer section and a denuder (decomposer) section and utilizes mercury to produce chlorine gas, hydrogen gas, and alkali metal hydroxide.

(f) *Mercury chlor-alkali electrolyzer* means an electrolytic device which is part of a mercury chlor-alkali cell and utilizes a flowing mercury cathode to produce chlorine gas and alkali metal amalgam.

(g) *Denuder* means a horizontal or vertical container which is part of a mercury chlor-alkali cell and in which water and alkali metal amalgam are converted to alkali metal hydroxide, mercury, and hydrogen gas in a short-circuited, electrolytic reaction.

(h) *Hydrogen gas stream* means a hydrogen stream formed in the chlor-alkali cell denuder.

(i) *End box* means a container(s) located on one or both ends of a mercury chlor-alkali electrolyzer which serves as a connection between the electrolyzer and denuder for rich and stripped amalgam.

(j) *End box ventilation system* means a ventilation system which collects mercury emissions from the end-boxes, the mercury pump sumps, and their water collection systems.

(k) *Cell room* means a structure(s) housing one or more mercury electrolytic chlor-alkali cells.

(l) *Sludge* means sludge produced by a treatment plant that processes municipal or industrial waste waters.

(m) *Sludge dryer* means a device used to reduce the moisture content of sludge by heating to temperatures above 65 °C (ca. 150 °F) directly with combustion gases.

[38 FR 8826, Apr. 6, 1973, as amended at 40 FR 48302, Oct. 14, 1975]

§ 61.52 Emission standard.

(a) Emissions to the atmosphere from mercury ore processing facilities and mercury cell chlor-alkali plants shall not exceed 2.3 kg (5.1 lb) of mercury per 24-hour period.

(b) Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.

[40 FR 48302, Oct. 14, 1975, as amended at 65 FR 62151, Oct. 17, 2000]

§ 61.53 Stack sampling.

(a) *Mercury ore processing facility.* (1) Unless a waiver of emission testing is obtained under §61.13, each owner or operator processing mercury ore shall test emissions from the source according to Method 101 of appendix B to this part. The emission test shall be performed—

(i) Within 90 days of the effective date in the case of an existing source or a new source which has an initial start-up date preceding the effective date; or

(ii) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(2) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(3) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in a 24-hour period. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(4) All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(5) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.

(b) *Mercury chlor-alkali plant—hydrogen and end-box ventilation gas streams.* (1) Unless a waiver of emission testing is obtained under §61.13, each owner or operator employing mercury chlor-alkali cell(s) shall test emissions from hydrogen streams according to Method 102 and from end-box ventilation gas streams according to Method 101 of appendix B to this part. The emission test shall be performed—

(i) Within 90 days of the effective date in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(ii) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(2) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(3) Samples shall be taken over such a period or periods as are necessary to accurately determine the

maximum emissions which will occur in a 24-hour period. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until the new emission has been estimated by calculation and the results reported to the Administrator.

(4) All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(5) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.

(c) *Mercury chlor-alkali plants—cell room ventilation system.* (1) Stationary sources using mercury chlor-alkali cells may test cell room emissions in accordance with paragraph (c)(2) of this section or demonstrate compliance with paragraph (c)(4) of this section and assume ventilation emissions of 1.3 kg/day (2.9 lb/day) of mercury.

(2) Unless a waiver of emission testing is obtained under §61.13, each owner or operator shall pass all cell room air in force gas streams through stacks suitable for testing and shall test emissions from the source according to Method 101 in appendix B to this part. The emission test shall be performed—

(i) Within 90 days of the effective date in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(ii) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(3) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(4) An owner or operator may carry out approved design, maintenance, and housekeeping practices. A list of approved practices is provided in appendix A of "Review of National Emission Standards for Mercury," EPA–450/3–84–014a, December 1984. Copies are available from EPA's Central Docket Section, Docket item number A-84-41, III-B-1.

(d) *Sludge incineration and drying plants.* (1) Unless a waiver of emission testing is obtained under §61.13, each owner or operator of a source subject to the standard in §61.52(b) shall test emissions from that source. Such tests shall be conducted in accordance with the procedures set forth either in paragraph (d) of this section or in §61.54.

(2) Method 101A in appendix B to this part shall be used to test emissions as follows:

(i) The test shall be performed within 90 days of the effective date of these regulations in the case of an existing source or a new source which has an initial startup date preceding the effective date.

(ii) The test shall be performed within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(3) The Administrator shall be notified at least 30 days prior to an emission test, so that he may at his option observe the test.

(4) Samples shall be taken over such a period or periods as are necessary to determine accurately the maximum emissions which will occur in a 24-hour period. No changes shall be made in the operation which would potentially increase emissions above the level determined by the most recent stack test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(5) All samples shall be analyzed and mercury emissions shall be determined within 30 days after the stack test. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(6) Records of emission test results and other data needed to determine total emissions shall be retained at the source and shall be made available, for inspection by the Administrator, for a minimum of 2 years.

[38 FR 8826, Apr. 6, 1973, as amended at 40 FR 48302, Oct. 14, 1975; 47 FR 24704, June 8, 1982; 50 FR 46294, Nov. 7, 1985; 52 FR 8726, Mar. 19, 1987; 65 FR 62151, Oct. 17, 2000]

§ 61.54 Sludge sampling.

(a) As an alternative means for demonstrating compliance with §61.52(b), an owner or operator may use Method 105 of appendix B and the procedures specified in this section.

(1) A sludge test shall be conducted within 90 days of the effective date of these regulations in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(2) A sludge test shall be conducted within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(b) The Administrator shall be notified at least 30 days prior to a sludge sampling test, so that he may at his option observe the test.

(c) Sludge shall be sampled according to paragraph (c)(1) of this section, sludge charging rate for the plant shall be determined according to paragraph (c)(2) of this section, and the sludge analysis shall be performed according to paragraph (c)(3) of this section.

(1) The sludge shall be sampled according to Method 105—Determination of Mercury in Wastewater Treatment Plant Sewage Sludges. A total of three composite samples shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.

(2) The maximum 24-hour period sludge incineration or drying rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator or dryer with an accuracy of ±5 percent over its operating range. Other methods of measuring sludge mass charging rates may be used if they have received prior approval by the Administrator.

(3) The sampling, handling, preparation, and analysis of sludge samples shall be accomplished according to Method 105 in appendix B of this part.

(d) The mercury emissions shall be determined by use of the following equation.

$$E_{Hg} = \frac{MQ\,F_{sm(avg)}}{1000}$$

where:

E_{Hg}=Mercury emissions, g/day.

M=Mercury concentration of sludge on a dry solids basis, μg/g.

Q=Sludge changing rate, kg/day.

F_{sm}=Weight fraction of solids in the collected sludge after mixing.

1000=Conversion factor, kg μg/g^2.

(e) No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the Administrator.

(f) All sludge samples shall be analyzed for mercury content within 30 days after the sludge sample is collected. Each determination shall be reported to the Administrator by a registered letter dispatched within 15 calendar days following the date such determination is completed.

(g) Records of sludge sampling, charging rate determination and other data needed to determine mercury content of wastewater treatment plant sludges shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.

[40 FR 48303, Oct. 14, 1975, as amended at 49 FR 35770, Sept. 12, 1984; 52 FR 8727, Mar. 19, 1987; 53 FR 36972, Sept. 23, 1988]

§ 61.55 Monitoring of emissions and operations.

(a) *Wastewater treatment plant sludge incineration and drying plants.* All the sources for which mercury emissions exceed 1.6 kg (3.5 lb) per 24-hour period, demonstrated either by stack sampling according to §61.53 or sludge sampling according to §61.54, shall monitor mercury emissions at intervals of at least once per year by use of Method 105 of appendix B or the procedures specified in §61.53 (d) (2) and (4). The results of monitoring shall be reported and retained according to §61.53(d) (5) and (6) or §61.54 (f) and (g).

(b) *Mercury cell chlor-alkali plants—hydrogen and end-box ventilation gas streams.* (1) The owner or operator of each mercury cell chlor-alkali plant shall, within 1 year of the date of publication of these amendments or within 1 year of startup for a plant with initial startup after the date of publication, perform a mercury emission test that demonstrates compliance with the emission limits in §61.52, on the hydrogen stream by Method 102 and on the end-box stream by Method 101 for the purpose of establishing limits for parameters to be monitored.

(2) During tests specified in paragraph (b)(1) of this section, the following control device parameters shall be monitored, except as provided in paragraph (c) of this section, and recorded manually or automatically at least once every 15 minutes:

(i) The exit gas temperature from uncontrolled streams;

(ii) The outlet temperature of the gas stream for the final (i.e., the farthest downstream) cooling system when no control devices other than coolers and demisters are used;

(iii) The outlet temperature of the gas stream from the final cooling system when the cooling system is followed by a molecular sieve or carbon adsorber;

(iv) Outlet concentration of available chlorine, pH, liquid flow rate, and inlet gas temperature of chlorinated brine scrubbers and hypochlorite scrubbers;

(v) The liquid flow rate and exit gas temperature for water scrubbers;

(vi) The inlet gas temperature of carbon adsorption systems; and

(vii) The temperature during the heating phase of the regeneration cycle for carbon adsorbers or molecular sieves.

(3) The recorded parameters in paragraphs (b)(2)(i) through (b)(2)(vi) of this section shall be averaged over the test period (a minimum of 6 hours) to provide an average number. The highest temperature reading that is measured in paragraph (b)(2)(vii) of this section is to be identified as the reference temperature for use in paragraph (b)(6)(ii) of this section.

(4)(i) Immediately following completion of the emission tests specified in paragraph (b)(1) of this section, the owner or operator of a mercury cell chlor-alkali plant shall monitor and record manually or automatically at least once per hour the same parameters specified in paragraphs (b)(2)(i) through (b)(2)(vi) of this section.

(ii) Immediately following completion of the emission tests specified in paragraph (b)(1) of this section, the owner or operator shall monitor and record manually or automatically, during each heating phase of the regeneration cycle, the temperature specified in paragraph (b)(2)(vii) of this section.

(5) Monitoring devices used in accordance with paragraphs (b)(2) and (b)(4) of this section shall be certified by their manufacturer to be accurate to within 10 percent, and shall be operated, maintained, and calibrated according to the manufacturer's instructions. Records of the certifications and calibrations shall be retained at the chlor-alkali plant and made available for inspection by the Administrator as follows: Certification, for as long as the device is used for this purpose; calibration for a minimum of 2

years.

(6)(i) When the hourly value of a parameter monitored in accordance with paragraph (b)(4)(i) of this section exceeds, or in the case of liquid flow rate and available chlorine falls below the value of that same parameter determined in paragraph (b)(2) of this section for 24 consecutive hours, the Administrator is to be notified within the next 10 days.

(ii) When the maximum hourly value of the temperature measured in accordance with paragraph (b)(4)(ii) of this section is below the reference temperature recorded according to paragraph (b)(3) of this section for three consecutive regeneration cycles, the Administrator is to be notified within the next 10 days.

(7) Semiannual reports shall be submitted to the Administrator indicating the time and date on which the hourly value of each parameter monitored according to paragraphs (b)(4)(i) and (b)(4)(ii) of this section fell outside the value of that same parameter determined under paragraph (b)(3) of this section; and corrective action taken, and the time and date of the corrective action. Parameter excursions will be considered unacceptable operation and maintenance of the emission control system. In addition, while compliance with the emission limits is determined primarily by conducting a performance test according to the procedures in §61.53(b), reports of parameter excursions may be used as evidence in judging the duration of a violation that is determined by a performance test.

(8) Semiannual reports required in paragraph (b)(7) of this section shall be submitted to the Administrator on September 15 and March 15 of each year. The first semiannual report is to be submitted following the first full 6 month reporting period. The semiannual report due on September 15 (March 15) shall include all excursions monitored through August 31 (February 28) of the same calendar year.

(c) As an alternative to the monitoring, recordkeeping, and reporting requirements in paragraphs (b)(2) through (8) of this section, an owner or operator may develop and submit for the Administrator's review and approval a plant-specific monitoring plan. To be approved, such a plan must ensure not only compliance with the emission limits of §61.52(a) but also proper operation and maintenance of emissions control systems. Any site-specific monitoring plan submitted must, at a minimum, include the following:

(1) Identification of the critical parameter or parameters for the hydrogen stream and for the end-box ventilation stream that are to be monitored and an explanation of why the critical parameter(s) selected is the best indicator of proper control system performance and of mercury emission rates.

(2) Identification of the maximum or minimum value of each parameter (e.g., degrees temperature, concentration of mercury) that is not to be exceeded. The level(s) is to be directly correlated to the results of a performance test, conducted no more than 180 days prior to submittal of the plan, when the facility was in compliance with the emission limits of §61.52(a).

(3) Designation of the frequency for recording the parameter measurements, with justification if the frequency is less than hourly. A longer recording frequency must be justified on the basis of the amount of time that could elapse during periods of process or control system upsets before the emission limits would be exceeded, and consideration is to be given to the time that would be necessary to repair the failure.

(4) Designation of the immediate actions to be taken in the event of an excursion beyond the value of the parameter established in paragraph (c)(2) of this section.

(5) Provisions for reporting, semiannually, parameter excursions and the corrective actions taken, and provisions for reporting within 10 days any significant excursion.

(6) Identification of the accuracy of the monitoring device(s) or of the readings obtained.

(7) Recordkeeping requirements for certifications and calibrations.

(d) *Mercury cell chlor-alkali plants—cell room ventilation system.* (1) Stationary sources determining cell room emissions in accordance with §61.53(c)(4) shall maintain daily records of all leaks or spills of mercury. The records shall indicate the amount, location, time, and date the leaks or spills occurred, identify the cause of the leak or spill, state the immediate steps taken to minimize mercury emissions and steps taken to prevent future occurrences, and provide the time and date on which corrective steps were taken.

(2) The results of monitoring shall be recorded, retained at the source, and made available for inspection by the Administrator for a minimum of 2 years.

[52 FR 8727, Mar. 19, 1987, as amended at 65 FR 62151, Oct. 17, 2000]

§ 61.56 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: Sections 61.53(c)(4) and 61.55(d). The authorities not delegated to States listed are in addition to the authorities in the General Provisions, subpart A of 40 CFR part 61, that will not be delegated to States (§§61.04(b), 61.12(d)(1), and 61.13(h)(1)(ii)).

[52 FR 8728, Mar. 19, 1987]

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